

NOTES ON GEOGRAPHIC DISTRIBUTION

Reptilia, Boidae, *Epicrates cenchria cenchria*: Distribution extension.

César L. Barrio-Amorós ¹
Amelia Díaz de Pascual ²

¹ Fundación Andígena, Apartado Postal 210. Mérida 5101-A, Venezuela. Email: cesarlba@yahoo.com

² Facultad de Ciencias, Universidad de los Andes, Departamento de Biología. Mérida 5101-A, Venezuela.

According to Barrio-Amorós (1998), Venezuela has seven bio-regions with respect to amphibian distribution. This zoogeographical scenario might be different considering reptile distribution. The Guiana shield is the largest Venezuelan biome, occupying the southeastern half of the country, south of Orinoco River. Although this biome is highly complex (Barrio-Amorós 1998) and includes many subregions, Huber (1995) and Gorzula and Señaris (1999) divided it in lowlands (predominating rainforests with widespread Amazonian species), uplands (savannas and/or low, evergreen, montane forests *sensu* Huber and Alarcón [1988], similar to cloud forests in the slopes of mountains, locally named *tepui*, with many endemic species), and highlands (summits of *tepui* with rocky outcrops and dwarf forests, with almost all species endemic to one or more *tepui*).

The Guiana shield comprises all the lands south and east of the Orinoco River in Venezuela, but rainforest lowlands associated with the Amazonian region also extends northwards to the extreme northeast of the country, reaching the island of Trinidad (Murphy 1997). Perspectives in the distribution pattern of many species of amphibians and reptiles previously known in Venezuela, only from localities south to the Orinoco River, changed by finding many considered "southern characteristic species" in the north of the Orinoco River, especially along the eastern Venezuelan Andean piedmont of the *Cordillera de Mérida*, in the western side of the country, which predominantly consists in lowland rainforests on hills that are the first buttresses of the Andean chain seen from *Los Llanos* region. We have recently reported many Amazonian frogs to the Venezuelan Andean Piedmont, such as *Leptodactylus lineatus* (Barrio 1999a), *Hypsiboas boans* (Barrio 1999b; 2001), *H. punctatus* (Barrio-

Amorós et al. 2000), *Pseudopaludicola llanera* (Barrio-Amorós and Chacón 2002), and the snakes *Anilius scytale* (Barrio et al. 2002) and *Micrurus lemniscatus* (Barrio-Amorós and Calcaño 2003). This may change the previous idea of a country biogeographically divided by the Orinoco River, as interpreted by Rivero (1964), Roze (1966), and La Marca (1992). Barrio-Amorós (1998) already showed the anuran fauna occurring in Amazonian corridors, along the Andean Piedmont and the Orinoco delta towards northern localities (Barrio-Amorós 1998).

The most recent checklist of Venezuelan amphibians introduces all these novelties (Barrio-Amorós 2004). Roze (1966) presented a zoogeographical arrangement for distribution of Venezuelan snakes. However, such approach was basic and is currently out of date, as commented by some authors (Barrio-Amorós 1998; Gorzula and Señaris 1999; Huber and Alarcón 1988). Unfortunately, a recent checklist of Venezuelan reptiles interpreting the distributional patterns for each species is lacking. Herein, we report another considered southern (Amazonian) species of snake, *Epicrates cenchria cenchria*, in the Andean piedmont, and records of sympatry between this species and *Epicrates maurus*.

Previous distribution data on *E. c. cenchria* influenced early authors to affirm that it was a strict inhabitant of Amazonia and Guiana lowland rainforests in Venezuela (e.g., Roze 1966; Lancini 1979). Beebe (1946) reported *E. c. cenchria* from Caripito, Monagas, in the northeastern limit of its distribution. Another record north of the Orinoco River was published by La Marca et al. (1995), from the Inter Andean valley of Chama River, near the city of Mérida, but it was a misidentified *E. maurus* (Casado and La Marca 1996).

NOTES ON GEOGRAPHIC DISTRIBUTION

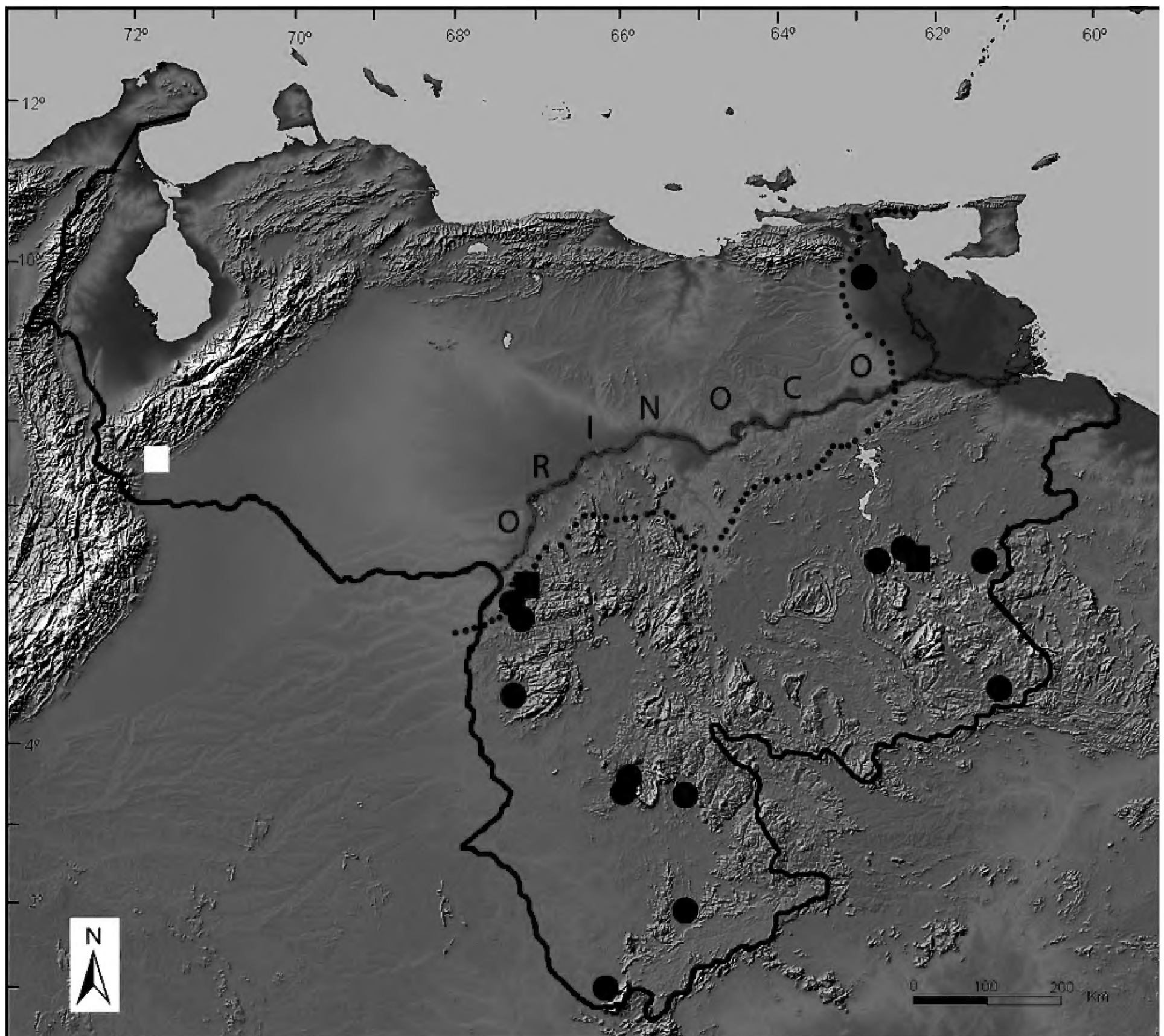


Figure 1. Distribution of *E. cenchria cenchria* in Venezuela (black circles) based on literature, EBRG and MHNLS localities, and present work data. The dashed line south of the Orinoco River shows the biogeographic division (*lato sensu*) between southern lowland rainforests (including those in the Guiana Shield) and northern dry savannas with gallery forests (*Los Llanos*). The white square shows the locality reported herein, where *E. c. cenchria* and *E. maurus* occur in sympatry, eastern Venezuelan Andean piedmont. The black squares show the two other localities where *E. c. cenchria* and *E. maurus* occur in sympatry.

We report the museum record of one adult female *E. c. cenchria* (*Colección de Vertebrados, Universidad de los Andes, Mérida, Venezuela*; CVULA 4668) from Uribante dam (7°47' N, 72°05' W; ca. 1,000 m), state of Táchira, collected by A. Guevara in 1985. The specimen has a snout-vent-length of 1,600 mm and a tail-length of 225

mm, 267 ventrals, 57 subcaudals, and 44 dorsals scales at midbody. All meristic characters match to the range reported for the species (Amaral 1954; Roze 1966, Lancini 1979; Starace 1998). This is the first record for the state, first record northwest of the Orinoco River, and westernmost for the species in Venezuela, extending about 430

NOTES ON GEOGRAPHIC DISTRIBUTION

km WNW straight-line from the closest record in Venezuela, Gavilán, in the state of Amazonas (Rodríguez-Acosta and Fuentes 1996), and 250 km NNE straight-line from the nearest locality in Colombia (Pérez Santos and Moreno 1988). This record confirms that the characteristic fauna of the Amazonian domain extends to the eastern piedmont of the Venezuelan Andes (Figure 1). A specimen of *E. maurus* (CVULA 4610) was collected in the same general area, Uribante-Pararo, state of Táchira, by A. Guevara in 1985.

There are further records of sympatry for *E. c. cenchria* and *E. maurus* in Venezuela (Figure 1). We found specimens of both species dead on the same road, from Puerto Ayacucho to Gavilán, a natural transition between savanna and rainforest. Those records were on different points of the road, coincident with rainforest for *E. c. cenchria* and savanna for *E. maurus* (CLB, pers. obs.; R. Mattei, pers. comm.). In the same area, one specimen of *E. c. cenchria* (*Museo de la Estación Biológica Rancho Grande*, Maracay, Venezuela; EBRG 2098) came from San Pedro de Cataniapo, close to Gavilán, while one specimen of *E. maurus*

(EBRG 2012) was recorded in Reforma, about 10 km WNW from San Pedro de Cataniapo. Another record (without voucher specimen) is from a lowland rainforest locality called Triunfo, at the base of Cerro Santa Rosa, Serranía de Supamo, state of Bolívar, where *E. c. cenchria* is known from the rainforest (Barrio-Amorós 2005), and a specimen of *E. maurus* was seen on the airstrip of a mining camp in the same locality (CLB, pers. obs.). *Epicrates maurus* has been considered as a subspecies of *E. cenchria* (Amaral 1954; McDiarmid et al. 1999). Nonetheless, some authors consider a valid species due to differences in pholidosis and coloration characters (Chippaux 1987; Gorzula and Señaris 1999).

Epicrates maurus is a well-known inhabitant of open habitats, savannas and dry gallery forests in Venezuela (CLB, pers. obs.) but rare or absent in rainforests, whereas *Epicrates cenchria cenchria* is mainly a lowland rainforest inhabitant. However, in some areas of ecotone, both species can occur in sympatry. Consequently, we consider this as further evidence reinforcing the specific distinction between them.

Acknowledgements

We thank deeply A. Guevara for providing the necessary data; R. Mattei, F. Mendoza and D. Calcaño for their comments on the *Epicrates* distribution; G. Rivas for providing distribution localities; Paulo Passos reviewed the manuscript extensively; Francisco Bisbal (EBRG) and Celsa Señaris (MHNLS, *Museo de Historia Natural La Salle*, Caracas, Venezuela) provided the catalogue data from their respective museums. Two referees improved the MS with their comments.

Literature cited

- Amaral, A. 1954. Contribuição ao conhecimento dos ophidios neotrópicos XXXVI. Subespécies de *Epicrates cenchria* (Lineu, 1758). *Memórias do Instituto Butantan* 26: 227-247.
- Barrio-Amorós, C. L. 1998. Sistemática y Biogeografía de los anfibios (Amphibia) de Venezuela. *Acta Biologica Venezuelica* 18(2): 1-93.
- Barrio, C. L., 1999a. Geographic Distribution: Anura: *Lithodytes lineatus*. *Herpetological Review* 30(1): 50.
- Barrio, C. L., 1999b. Geographic distribution. Anura: *Hyla boans*. *Herpetological Review* 30(4): 230.
- Barrio, C. L. 2001. Geographic Distribution: Anura: *Hyla boans*. *Herpetological Review* 32: 113-114.
- Barrio-Amorós, C. L. 2004. Amphibians of Venezuela, Systematic list, distribution and references; an update. *Revista Ecología Latino Americana* 9: 1-48.
- Barrio-Amorós, C. L. 2005. Fantastic herping in Venezuela's Guayana. *Reptiles magazine* 13: 50-59.
- Barrio-Amorós., C. L., A. Chacón-Ortiz, and A. Díaz De Pascual. 2002. Geographic Distribution: *Anilius scytale*. *Herpetological Review* 33: 66-67.
- Barrio-Amorós, C. L. and D. Calcaño. 2003. First record of *Micrurus lemniscatus* (Linnaeus, 1758) from Western Venezuela with comments on coral snakes from the eastern Andean piedmont. *Herpetozoa* 16: 73-78.
- Barrio-Amorós, C. L. and A. Chacón-Ortiz. 2002. Geographic distribution. *Pseudopaludicola llanera*. *Herpetological Review* 33:222.
- Barrio-Amorós., C. L., Diaz De Pascual, and A. Chacon. 2003. Geographic Distribution: *Ptychoglossus nicefori*. *Herpetological Review* 34: 167.

NOTES ON GEOGRAPHIC DISTRIBUTION

- Barrio-Amorós, C. L., R. Rivero, and R. Manrique. 2000. Geographic distribution: Anura: *Hyla punctata*. Herpetological Review. 31: 50.
- Beebe, W. 1946. Field notes on the snakes of Kartabo, British Guiana, and Caripito, Venezuela. Zoologica 31: 11-52.
- Casado, R. and E. La Marca. 1996. Geographic Distribution: *Epicrates cenchria maurus*. Herpetological Review 27: 212.
- Chacón, A., A. Díaz De Pascual, and C. L. Barrio. 2002. Presencia de *Bufo glaberrimus* (Anura: Bufonidae) en Venezuela. Acta Biologica Venezuelica 20: 65-69.
- Chippaux, J. 1987. Les serpents de la Guyane Française, Faune Tropicale XXVII. Paris: Orstom. 165 p.
- Gorzula, S. and J. C. Señaris. 1999. Contribution to the herpetofauna of the Venezuelan Guayana. I. A database. Caracas. Scientia Guaianae 8. 268 p.
- Huber, O. 1995. Geographical and physical features; p. 1-61 In J. A. Steyermark, P. E. Berry, and B. K-Holst (ed.). Flora of the Venezuelan Guayana. Oregon: Timber Press.
- Huber, O. and C. Alarcón. 1988. Vegetation map of Venezuela, 1:2.000.000. Caracas: MARNR and The Nature Conservancy.
- La Marca, E. 1992. Catálogo taxonómico, biogeográfico y bibliográfico de las ranas de Venezuela. Cuadernos Geográficos. Mérida. Universidad de Los Andes. 197 p.
- La Marca, E., P. Soriano, and R. Casado. 1995. Geographic Distribution: *Epicrates cenchria cenchria*. Herpetological Review 26: 109.
- Lancini, A. R. 1979. Serpientes de Venezuela. Caracas: Armitano. 262 p.
- Lancini, A. R. and P. Kornacker. 1986. Die Schlangen von Venezuela. Caracas: Armitano. 381 p.
- Murphy, J. C. 1997. Amphibians and reptiles of Trinidad and Tobago. Malabar: Krieger Publishing Company. 245 p.
- McDiarmid, R. W., J. A. Campbell, and T. A. Touré. 1999. Snake Species of the World: a taxonomic and geographic reference, Volume 1. Washington: Herpetologists' League. 512 p.
- Pérez Santos and A. Moreno. 1988. Ofidios de Colombia. Monografie VI. Museo Regionale di Scienze Naturali di Torino. 517 p.
- Rivero, J. A. 1964. The distribution of Venezuelan frogs V. The Venezuelan Guayana. Caribbean Journal of Science 4: 411-420.
- Rodríguez-Acosta, A. and O. Fuentes, 1996. La fauna ofídica observada en dos regiones de la cuenca amazónica venezolana. Terra 11/12: 77-84.
- Roze, J. A. 1966. La Taxonomía y Zoogeografía de los ofidios de Venezuela. Caracas: Universidad Central de Venezuela. 360 p.

Received January 2008

Accepted July 2008

Published online August 2008